WE CLAIM:

1.   A computer system for automating communications between client devices and service provider devices linked to a data communications network, comprising:

a service provider device linked to the communications network including a conversion and connection mechanism for receiving streamed service requests, for converting the streamed service request to a request document, and transmitting the request document to a target service; and

a client device linked to the communications network including a client agent that creates a service request and a conversion and connection mechanism that parses the service request to identify the target service, that opens a communication connection with the service provider device, and that transmits the streamed service request over the communications network to the service provider device.

2.   The computer system of claim 1, wherein the conversion and connection mechanism of the service provider is further configured for receiving a response document, for in response opening a communication connection with the client device, for converting the request document to a request string, and for streaming the response string to the communication connection at the client device over the communications network.

3.   The computer system of claim 2, wherein the response string is streamed using a streaming protocol based on TCP/IP.

4.   The computer system of claim 3, wherein the streaming protocol is selected from the group consisting of HTTP, HTTPS, and UDP.

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5.   The computer system of claim 2, wherein the service provider includes a response generator adapted to create the response document from a service response created by the target service.

6.   The computer system of claim 5, wherein the response document and the request document are in a formatted structure used by the service provider and the client device.

7.   The computer system of claim 6, wherein the formatted structure is an eXtensible Markup Language (XML) document or a Standard Generalized Markup Language (SGML) document.

8.   The computer system of claim 2, wherein the conversion and connection mechanism of the client device is adapted for converting streamed response string into an instance of the response document.

9.   The computer system of claim 8, wherein the instance of the response document is in a formatted structure document and wherein the client device further includes a component for recognizing the formatted structure and converting the instance of the request document to a service response useable by the client agent.

10. A method for use in a service provider system for automating communication conversions and connections, comprising:
    receiving, over a communications network from a client machine, a streamed service request for a target service;

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converting the streamed service request into a request document;

transmitting the request document to the target service;

in response, receiving a response document from the target service;

converting the response document to a service response configured for streaming over the communications network;

allocating a port on the client machine with a base networking protocol, wherein the client machine and the target service use a single connection; and

streaming the service response to the port of the client machine.

11. The method of claim 10, wherein the streamed service request converting includes verifying the client machine is an acceptable source of service requests and verifying validity of the request document by comparing included data types in the request document with expected data definitions.

12. The method of claim 10, wherein the request document and the response document are in a formatted structure common to the target service and the client machine.

13. The method of claim 10, wherein the response document converting and the service response streaming are performed according to a streaming protocol based on TCP/IP.

14. The method of claim 10, further including converting the request document into a request object prior to the transmitting and creating the response

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document from a response object received from the target
service prior to the response document receiving.

15. A method for use in a service provider client-
server network, comprising:
at a client device:
generating a service request document having a
first form;
converting the service request document into a
service string having a streaming form according to a
data transfer protocol;
allocating a port on the client device based on
a base networking protocol to establish a single
communication connection with a service provider device
identified in the service request document;
transmitting the service string over a
communications network to the communication connection at
the service provider device;
at the service provider device:
converting the service string into an instance
of the service request document having the first form;
transmitting the instance to a target service;
receiving a response document based on the
instance;
converting the response document into a
response string having a streaming form according to the
data transfer protocol;
allocating a port on the client device to
establish the communication connection with the client
device; and
transmitting the response string over the
communications network to the port at the client device.

16. The method of claim 15, further including at
the client device:

receiving the response string;

converting the response string into an instance of the response document; and

providing the instance of the response document to a client agent.

17. The method of claim 16, wherein the first form and a form of the response document are in formatted structure common to the client device and the service provider device.

18. The method of claim 15, wherein the data transfer document is streamed using a streaming protocol based on TCP/IP.

19. The method of claim 15, further including at the client device:

determining the data transfer protocol based on the service provider device identified in the service request.